Capacity Building Series

SECRETARIAT
SPECIAL EDITION #16

Collaborative Teacher Inquiry

New Directions in Professional Practice

Models of teacher-driven inquiry have existed for many years (e.g., Little, 1982). However, with increased support and attention to teacher collaborative processes, both within schools and across them in hubs and networks, the role of teacher inquiry is emerging as a critical part of the daily work of teachers. In effect, collaborative teacher inquiry is rapidly becoming a commonly held stance within professional practice in Ontario as we transform our conceptions of professional learning (Hannay, Wideman, & Seller, 2010).

On the basis of research literature, as well as on the current work of Ontario teachers, principals and board leaders, this monograph identifies seven characteristics of collaborative teacher inquiry. Several teacher collaboratives supported by the Ontario Ministry of Education, the Kindergarten/Grade One Collaborative Inquiry, the Collaborative Inquiry for Learning: Mathematics (CIL-M) and the Student Work Study, are the source for the teacher voices in the pages that follow.

Why engage in teacher inquiry?

"We don't inquire to eliminate alternatives but to find more functional understandings – to create diversity, broaden our thinking and ask more complex questions."

(Burke & Short, 1991)

Engaging Teachers as Learners

Through collaborative inquiry, teachers integrate new knowledge and understanding of student learning and classroom instruction into their existing knowledge of professional practice. For those engaged in inquiry, the process can serve to expand and refine their personal knowledge base about what it means to be a teacher (Earl, in press). Inquiry constructs understanding of the "classroom encounter" – where instruction, curriculum and student actions intersect (Moore, 2004).

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Teachers say ...

"We can bounce ideas off each other. If one of us is having a hard time prompting a student in a certain way, the other one just naturally falls into place. So just having that new learning process with [co-teaching in our collaborative inquiry and] having another person there has been great."

"The climate had to be established that it was okay to take a risk; we needed to have a venue to have courageous conversations … The climate is so important because … we were able to talk about our struggles."

In practice, inquiry engages teachers as learners in critical and creative thinking. It honours openness and flexibility. Through collaborative dialogue, teachers seek emergent possibilities – new questions and solutions to student learning and achievement. This stance is "iterative," repeating progressively as teachers reflect and build on each successive inquiry.

Inquiry positions the teacher as an informed practitioner refining planning, instruction and assessment approaches in the continual pursuit of greater precision, personalization and innovation. A focus on student learning drives inquiry. Data generated from student actions and work compel teachers to investigate new, engaging and relevant questions about how and what their students learn. These questions lead to informed actions within the classroom, which in turn serve to refine or initiate new investigations.

Seven Characteristics of Teacher Inquiry

Currently in Ontario, collaborative teacher inquiry is used in professional learning communities, school networks, action research partnerships and a range of other inquiry-based projects. Within the collaborative inquiry approach, the following characteristics play a critical role in generating opportunities for new understandings and actions.

1. Relevant

Student learning guides inquiry.

The primary purpose of all inquiry within the context of instructional practice is to meet the needs of students by engaging them in rich, personally relevant learning. With the learning process positioned at the heart of inquiry, accurately describing student learning becomes an anchor for the process. Consequently, assessment *for* learning is integral to engaging in professional inquiry. The learning process of students (*What is the student saying about his/her thinking during a task?*) as well as the products of their learning form the essential material of the inquiry.

The ability to analyze the evidence (e.g., transcriptions, anecdotal notes, photographs, videos, podcasts, oral recordings) with colleagues is key to the effectiveness of the process. Professional dialogue that focuses on authentic student-centred issues leads to further predictions and/or questions regarding how students might best learn within a specific context. Here, classroom-based description and analysis help generate new knowledge and insights that may have both immediate and longer-term consequences for teaching and learning.

How Student Learning Guides Inquiry

Starting with what students are learning

1. Describe what the students are doing and learning.
2. How do we know what we know? Consider the quality of evidence that we are using to answer the question:
   - Does the evidence compare the relation between teaching and learning?
   - Does the evidence draw on personal experience?
   - Does the evidence draw on external sources?
   - Does the evidence go beyond the statement?
3. What are the possible reasons that the students responded in the way that they did?
4. What do students need to do next and what do teachers need to do to get them there?

Starting with beliefs about teaching and learning

1. From the focus of inquiry, construct an **"If… then…"** statement. This statement identifies the specific relationship between teaching and learning under exploration. For example,

   If I ask students to articulate their understanding orally while they are working, then their work improves.

2. List evidence that would and would not support this statement.

Evidence that would support this statement	Evidence that would *not* support this statement

3. Consider the quality of evidence in each column.
   - Does the evidence compare the relation between teaching and learning?
   - Does the evidence draw on personal experience?
   - Does the evidence draw on external sources?
   - Does the evidence go beyond the statement?
4. Make an instructional plan to collect the evidence that will test the statement.

After new actions are taken…

5. What did we learn about our students? What can we adapt, revise and refine in our understanding of student learning?

For additional information about assessment *for* student learning, see Ontario Ministry of Education (2010) and Literacy and Numeracy Secretariat (2010).

2. Collaborative

Teacher inquiry is a shared process.

Although the mandate to reach every student seems simple, achieving this goal is complex. When educators work together to inquire about their students' learning and engagement, they embrace this complexity as an opportunity for further understanding rather than something to simplify.

The vast majority of teaching time is spent alone with students in the classroom. However, the collaborative nature of inquiry is what enables the learning to go deeper. Collaboration provides perspective, diversity and space for teachers to consider questions about student learning that can provide new insight unavailable in inquiry processes that are done individually. Finding common ground for all teachers to engage authentically together requires negotiation. Tools such as "discourse analysis" may help to build a unified focus of study.

Tips for Practice

Discourse Analysis

In the Analytic Discourse Process (adapted from Sagor, 1992), each participant has an opportunity to be interviewed about aspects of teaching and learning they are interested in exploring as a part of the inquiry. Participants take on one of four roles: interviewee, interviewer, reality checker and recorder. Additional participants can serve as additional reality checkers. Once the first participant has been interviewed, the roles rotate until each participant has had an opportunity to be the interviewee.

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Finally the conversation opens up to discuss the common and divergent interests and how they can be explored under a common inquiry focus. The following chart offers guidelines for participants as they take on each role.

Roles Guidelines	
Interviewee	Detail the issues you are most interested in exploring as a part of your classroom practice.
Interviewer	Only ask questions, offer no solutions, give no critical comments.
Reality Checker	Listen and identify issues that emerge from the conversation that are feasible as an inquiry focus.
Recorder	Record the conversation.

Teachers say ...

"The data or the 'student work' is actually more than just the finished product, [it's] the process, the behaviours, the conversations and the non-verbal and verbal communication."

"We have learned that perhaps the highest impact we can have on our students is taking the time to talk with them and connect with them.

"My experience in the CIL-M project demonstrated that the process of co-teaching can provide remarkable benefits for educators and students. Co-teaching not only greatly enhanced my understanding of mathematics and how to teach the subject, but it also opened doors to new pedagogical insights and generated my enthusiasm for collaborative teaching that I frankly was not expecting."

3. Reflective

Actions are informed by reflection.

Reflection is a critical part of analysis in applied research. Actions taken as a result of ongoing inquiry inform understanding of the kinds of conditions that support further student learning.

When teachers make pedagogical decisions, they reflect on students' engagement and learning resulting from their past decisions (Schon, 1983). Setting aside moments for reflection provides opportunities for collective thinking to become intentional and explicit. It allows for multiple perspectives and alternative explanations of student learning to be considered and analyzed. Reflection both aligns and challenges how teachers' and students' actions are related to underlying beliefs and theories of learning.

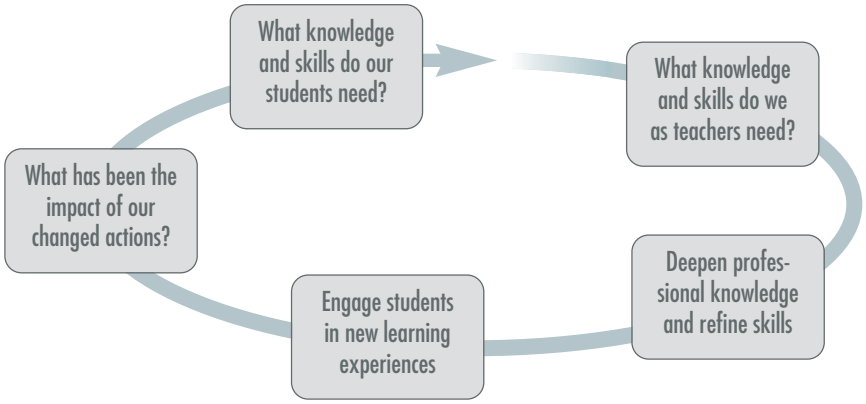
The quality of collaborative analysis makes all the difference. When engaged in collective reflective practice, teachers question, reason and probe ideas in order to push thinking of the group further. Trust, open-mindedness and a high tolerance for ambiguity are necessary characteristics of the collaborative team.

4. Iterative

Progressive understanding grows from cycles of inquiry.

The reflective process discussed above is most powerful when it cycles back, reviews and builds on each successive inquiry. Such iterative reflective work is facilitated by regular and consistent analysis of what and how students are learning. This involves not only the continuous level of analysis of determining next steps for students based on specific learning contexts, but also an analysis of what students and teachers are learning over time. Consistent and regular cycles of inquiry allow for progression in thinking. There are many frameworks that teams have used to identify themes over time. Within collaborative inquiry cycles, teachers identify frequently emerging themes, as well as rare but noteworthy themes which further illuminate the study. Inquiry is not so much a project as a stance to the activity of teaching and learning.

Teacher Inquiry and Knowledge-Building Cycle to Promote Valued Student Outcomes



Adapted from Timperley (2010). Permission to use granted from the Iterative Best Evidence Synthesis Programme, New Zealand Ministry of Education.

5. Reasoned

Analysis drives deep learning.

Three kinds of reasoning are used in professional conversations as inquiry teams identify common and divergent learning themes:

Inductive Reasoning

Analysis that seeks a general rule or pattern out of many specific instances of learning is inductive. We engage in inductive reasoning when discussing whether or not the particular evidence of a student's thinking and learning (or even multiple demonstrations from that one student) is enough to draw general conclusions about what has been learned. The need for including a wider variety of evidence or considering alternative explanations is an important part of this kind of reasoning.

For example, when 30 students are given a choice about the topic of inquiry, we observe that 27 become successfully engaged in learning. Opportunities for student choice may have been a critical factor for increasing student engagement, but we do not know this for certain. It is important to consider a wide range of factors before drawing conclusions.

Deductive Reasoning

Analysis that applies a general rule to specific instances of learning is deductive. We engage in deductive reasoning when we consider how a widely accepted practice can be applied in a specific instance with particular students in a classroom. For example, the research literature has established that providing descriptive feedback is an effective practice; through a process of deductive reasoning, we can work together to clarify how descriptive feedback will look in specific instances of student learning.

Abductive Reasoning

Most often, however, analysis takes the form of abductive reasoning. This type of reasoning can use both inductive reasoning and deductive reasoning. We engage in abductive reasoning when we form and test a hypothesis. For example, a team begins with the supposition that if student interests are incorporated into the program, then student ability to generate robust questions will improve. The team then tests out this hypothesis through classroom actions that incorporate student interests and examines student conversation and actions generated as a result. Further, the team can review other professional resources and research on what has been done to engage students. This type of abductive reasoning is the basic foundation for most scientific reasoning.

Teachers say ...

"One teacher explained how seeing another school in action, to see another school that is really kind of reflective of your own, was really valuable. Real kids, real classes… It wasn't like watching something on a video where there are 12 kids sitting pretty… It was just real life – authentic – and it was just teachers doing what they do. That was a really valuable thing. And seeing others struggle like you do. You're not the only one. You are all in the same boat."

"You get to see different teaching styles, [different grades], how different students react in different situations. You hone your practice based on the examples that you see in other classrooms… every time I went into a classroom I learned something new about myself and about my students."

Teachers say ...

"The learning that the teachers did, just being able to collaborate and have everyone saying, 'This could be a misconception', so you get so many ideas, you actually address those in the class."

"The SO, our superintendent, showed up a number of times, which meant that, you know what, this is really important. This is something that we all care about and we want you to succeed in. So having those people there really impressed me in terms of the meaningfulness of what we were doing."

6. Adapative

Inquiry shapes practice and practice shapes inquiry.

Collaborative inquiry requires thinking to be dynamic and creative as teachers seek ways to meet the needs of students. Teachers participating in collaborative inquiry continually adapt and apply knowledge and pedagogical approaches in response to their work in the classroom. This work can often be uncertain and ambiguous. Responsiveness and flexibility are essential.

Questions focus efforts on the influence that a specific aspect of practice is having on a specific aspect of student engagement and learning. Initial questions such as: "What is the influence of [a specific pedagogical practice] on [a specific area of student need]?" or simply, "What did they learn and how do we know?" drive meaningful conversations. The data generated from classroom work compels teachers to investigate new, engaging and relevant questions about what and how their students will best learn and be prepared for future learning. As teachers collaboratively engage in inquiry, the questions evolve to become more specific. Often teachers find that they needed to refine their question to reflect what it is they are actually inquiring about. Some questions are discovered to be unanswerable. Continually questioning the focus of the inquiry is a simple way to continue to adapt the inquiry.

Tips for Practice

A Guiding Framework to Inform Your Inquiry

"Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning." Albert Einstein

Is the question relevant to your classroom context?

Is the question open-ended with many possible answers?

Is the inquiry feasible in terms of time, effort and resources?

Have the terms of the question been operationalized? (defining terms so that the objects of inquiry are observable)

How is student learning being captured?

Are you capturing the aspects of student learning that relate to your focus?

How are changes in instructional practice being captured?

Are the educators involved passionate about the question? If not, why not?

7. Reciprocal

Theory and practice connect dynamically.

An important aspect of inquiry is engaging in what others have discovered about the phenomena under study (Coburn & Stein, 2010). With such wide and varied bodies of knowledge to explore, and limited time to act on the specific needs of students, it is important that the use of expert knowledge is strategic and purposeful. Purposeful use of book studies, literature reviews, and consultation with other professionals are all means to ground the inquiry within the existing bases of knowledge. When informed by existing knowledge bases, local application from an inquiry contributes to the collective knowledge of the profession.

Tips for Practice

Supporting conditions for inquiry

- value curiosity, wonder and risk-taking
- honour diversity of ideas, thoughts and actions
- provide choice
- foster rich opportunities to question and test ideas
- access resources including high-quality professional resources and research literature
- utilize expert others such as curriculum consultants, instructional coaches, instructional coordinators, principals as instructional leaders, researcher consultants and other professionals (e.g., speech and language pathologists, school psychologists)

Building on Foundations

Inquiry is powerful because it is adaptive and driven by practice. What we learn and understand about what students know today, becomes the seeds for tomorrow's questions. Teacher inquiry is a stance that propels our profession forward. Each day, teachers are creating knowledge about what and how their students learn. Through structured opportunities for professional dialogue, teachers have opportunities to share and reflect on growing "practical knowledge." New structures and technologies are also being used to mobilize knowledge and tap into learning communities that move beyond school walls. Networks and professional learning communities are important vehicles for knowledge mobilization (Levin, 2008). Teachers across the province continue to build on a foundation of innovative practice and merge current best practice with existing research.

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Why inquiry is powerful ...

"For teachers, it is not merely about increasing knowledge about the subject matter, classroom strategies, behaviour management techniques but in promoting authentic, constructive understandings of the classroom encounter – including what it means to be a teacher and a learner." (Moore, 2004, p. 24)

"Inquiry is more about unpacking the complexity of issues than it is about coming up with simple solutions to complex problems." (Harste, 2001)

"Education as inquiry provides an opportunity for learners to explore collaboratively topics of personal and social interest using the perspectives offered by others as well as by various knowledge domains (psychology, anthropology, economics, ecology, feminism) and various sign systems (art, music, mathematics, language) for purposes of producing a more equitable, a more just, a more thoughtful world. In this way, curriculum becomes a metaphor for the lives we want to live and the people we want to be" (Harste, 2001)

Supporting teacher-researchers ...

The Ontario College of teachers website now has a new premium research service which provides members direct access to EBSCO, a searchable database with access to full-text journals, newspapers, and education documents. http://www.oct.ca/library/

7 Seven Characteristics of Teacher Inquiry

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